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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

MILIA, MARK R

ART UNIT PAPER NUMBER

2622

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/963,373

Applicant(s)

NAKAMURA, HIROAKI

Examiner

Mark R. Milia

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment was received on 8/25/05 and has been entered and made of record. Currently, claims 1-18 are pending.

Specification

2. Applicant's amendment to the specification to correct a minor informality has overcome the objection to the specification as cited in the previous Office Action. Therefore the objection has been withdrawn.

Response to Arguments

3. Applicant's arguments with respect to claims 1-16, more specifically claim 1, have been considered but are moot in view of the current amendment to the claims and therefore a new ground(s) of rejection will be made. Particularly, the examiner agrees that the reference of Cookingham does not disclose the finished-state-predicting image and the reference image appearing on the same display. Newly added claims 17 and 18 will be addressed in the following rejection.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 4, 6-9, and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5748342 to Usami in view of U.S. Patent No. 5844542 to Inoue et al.

Regarding claim 1, Usami discloses an image processing apparatus comprising a display (see Fig. 1B "1"), an image processing unit for subjecting an image supplied from an image data supply source to image processing based on image processing conditions, thereby obtaining a finished-state-predicting image (see Figs. 19 and 20, column 4 lines 16-23 and 54-58, and column 5 lines 19-28), a memory for storing at least one reference image (see Figs. 1B and 14, column 4 lines 54-58, column 5 lines 32-34, and column 11 lines 33-40), a display unit for selecting at least one reference image from said at least one reference image and simultaneously displaying on said display said at least one selected reference image together with said finished-state-predicting image of the image processed by said image processing unit (see Figs. 1B, 7, 19, and 20, column 3 lines 64-65, column 7 lines 48-63, and column 8 lines 59-61), and a first adjustment unit for adjusting said image processing conditions in said image processing unit by comparing said finished-state-predicting image with said at least one selected reference image displayed on said display (see column 5 lines 1-48 and 59-67, column 6 lines 25-28 and 34-46, and column 7 lines 48-63).

Usami does not disclose expressly a registration unit for registering said at least one reference image in the memory.

Inoue discloses a registration unit for registering said at least one reference image in the memory (see column 5 lines 7-15 and 20-28 and column 6 lines 16-19).

Regarding claim 17, Usami discloses an image processing apparatus comprising: a display having a single display screen (see Fig. 1B "1"), an image processing unit for subjecting an image supplied from an image data supply source to image processing based on image processing conditions (see Figs. 19 and 20, column 4 lines 16-23 and 54-58, and column 5 lines 19-28), a manipulation system (see Figs. 1B, 19, and 20, column 3 lines 64-65, and column 7 lines 48-63), a reference image display controller having a memory for storing at least one reference image, wherein the manipulation system selects at least one selected reference image from said at least one reference image and simultaneously displaying on said single display screen said at least one selected reference image together with a finished-state-predicting image of the image processed by said image processing unit (see Figs. 1B, 7, 14, 19, and 20, column 3 lines 64-65, column 4 lines 54-58, column 5 lines 32-34, column 7 lines 48-63, column 8 lines 59-61, and column 11 lines 33-40), and a condition setting section (see column 3 lines 64-65 and column 4 line 52-column 5 line 67), said condition setting section including a setup subsection for setting image processing conditions (see column 5 lines 1-41), and a parameter coordinating subsection for receiving image processing conditions from the setup subsection, said condition setting section adjusting said image processing conditions in said image processing unit by using said at least

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one selected reference image displayed on said display and said finished-state-predicting image (see column 5 lines 1-48 and 59-67, column 6 lines 25-28 and 34-46, and column 7 lines 48-63).

Usami does not disclose expressly a registration unit for registering said at least one reference image in the memory, condition setting section including a setup subsection calculating image characteristic amounts for the image, a key adjustment subsection for verifying the image with the at least one reference image.

Inoue discloses a registration unit for registering said at least one reference image in the memory (see column 5 lines 7-15 and 20-28 and column 6 lines 16-19), condition setting section including a setup subsection for setting image processing conditions and for calculating image characteristic amounts for the image (see Fig. 9, column 1 lines 60-67, and column 5 lines 6-28 and 45-57), a key adjustment subsection for verifying the image with the at least one reference image (see Fig. 9, column 10 line 66-column 11 line 4, and column 11 lines 15-21).

Usami & Inoue are combinable because they are from the same field of endeavor, comparison of images based on color space.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the registration of reference images along with calculating image characteristic amounts and verifying images as described by Inoue with the system of Usami.

The suggestion/motivation for doing so would have been to provide a more accurate and controllable comparison of images based on the image processing associated with the images that are being dealt with.

Therefore, it would have been obvious to combine Inoue with Usami to obtain the invention as specified in claims 1 and 17.

Regarding claim 4, Usami and Inoue disclose the system discussed in claim 1, and Inoue further discloses an output unit for outputting said selected reference image stored in said memory as a hard copy and a second adjustment unit for adjusting color and density of said selected reference image stored in said memory (see Figs. 1, 3-4, and 8-9, column 4 lines 32-37, column 5 lines 6-15, and column 10 line 50-column 12 line 62).

Regarding claim 6, Usami and Inoue disclose the system discussed in claim 1, and Inoue further discloses wherein said image processing unit also processes said finished-state-predicting image by using image processing conditions of said at least one reference image registered the memory (see Fig. 9, column 2 line 54-column 3 line 3, and column 10 line 50-column 11 line 25).

Regarding claim 7, Usami and Inoue disclose the system discussed in claim 1, and Inoue further discloses wherein a color and a density residual of a calibration of an output device to which the image processed in said image processing unit is output are reflected on each of said at least one and said selected reference images (see column 15 line 20-column 16 line 41).

Regarding claim 8, Usami and Inoue disclose the system discussed in claim 1, and Inoue further discloses wherein an output device to which the image processed in said image processing unit is output and an output form used are selectable and said first adjustment unit modifies image processing conditions for said finished-state-predicting image in accordance with the output device and output form selected (see Figs. 1, 3-4, and 8-9, column 3 lines 33-42, column 4 lines 32-37, column 5 lines 6-15, column 10 line 50-column 12 line 62, and column 15 line 20-column 16 line 41).

Regarding claim 9, Usami and Inoue disclose the system discussed in claim 1, and Inoue further discloses wherein said registration unit registers image processing conditions for said finished-state-predicting image as image processing conditions for said at least one reference image (see column 5 lines 6-15, column 6 lines 16-19, and column 11 line 45-column 12 line 62).

Regarding claim 13, Usami and Inoue disclose the system discussed in claim 1, and Inoue further discloses wherein said memory stores said at least one reference image by colorimetric values (see column 5 lines 6-28).

Regarding claim 14, Usami and Inoue disclose the system discussed in claim 13, and Inoue further discloses wherein said colorimetric values are XYZ values in a CIE1931 standard colorimetric system or $L^*a^*b^*$ values in a CIE1976 $L^*a^*b^*$ perceived color space (see column 5 lines 6-15).

Regarding claim 15, Usami and Inoue disclose the system discussed in claim 1, and Inoue further discloses wherein said memory stores said at least one reference image by values on a standard color space (see column 5 lines 6-28).

Regarding claim 16, Usami and Inoue disclose the system discussed in claim 15, and Inoue further discloses wherein said standard color space is a sRGB trichromatic system (see column 5 lines 6-15).

Regarding claim 18, Usami and Inoue disclose the system discussed in claim 1, and Inoue further discloses wherein the adjusted image processing conditions are used for the image processing by the image processing unit, thereby obtaining a new finished-state-predicting image, and the display control unit displays the new finished-state-predicting image and said at least one selected reference image on said display (see Fig. 9 and column 11 lines 15-21, reference shows that the original image can be adjusted to form multiple variations of that image based on processing characteristics, each of which is displayed on the display for the user to view and compare to the original).

6. Claims 2, 3, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usami and Inoue as applied to claim 1 above, and further in view of U.S. Patent No. 5631974 to Lau-Kee et al.

Regarding claim 2, Usami and Inoue do not disclose expressly a moving unit for moving said second reference image displayed on said display.

Lau-Kee discloses a moving unit for moving said second reference image displayed on said display (see Fig. 2 and column 8 lines 18-27).

Regarding claim 3, Usami and Inoue do not disclose expressly at least one of a reference image enlargement/reduction unit for enlarging or reducing said second

reference image and a reference image partial display unit for partially displaying said second reference image.

Lau-Kee discloses at least one of a reference image enlargement/reduction unit for enlarging or reducing said second reference image and a reference image partial display unit for partially displaying said second reference image (see Fig. 2 and column 8 lines 18-27).

Regarding claim 10, Usami and Inoue do not disclose expressly claim wherein said display unit displays said second reference image and said finished-state-predicting image in a partially overlapped state on said display and indicates by color or density a magnitude of at least one of a color difference and a difference in an image structure index between the second reference image and the finished-state-predicting image in the partially overlapped state.

Inoue discloses indicating by color or density a magnitude of at least one of a color difference and a difference in an image structure index between the second reference image and the finished-state-predicting image (see Fig. 9 and column 10 line 50-column 11 line 21).

Lau-Kee discloses wherein said display unit displays said second reference image and said finished-state-predicting image in a partially overlapped state (see Fig. 2).

Regarding claim 12, Usami and Inoue do not disclose expressly wherein said image structure index is a power spectrum.

Inoue discloses wherein said image structure index is a power spectrum (see Fig. 9, column 3 lines 33-42, and column 10 line 50-column 11 line 21).

Usami, Inoue, & Lau-Kee are combinable because they are from the same field of endeavor, processing and comparison of digital images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine ability to manipulate and move a reference image as described by Lau-Kee with the system of Usami and Inoue.

The suggestion/motivation for doing so would have been to provide more flexibility and greater accuracy in the comparison of images.

Therefore, it would have been obvious to combine Lau-Kee with Usami and Inoue to obtain the invention as specified in claims 2 and 3.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Usami and Inoue as applied to claim 1 above, and further in view of Cookingham.

Inoue discloses a registration unit for registering reference images and a display for displaying the reference images (see Fig. 1B, column 5 lines 7-15 and 20-28, and column 6 lines 16-19).

Usami and Inoue do not disclose expressly wherein said registration unit registers a plurality of first reference images for each group corresponding to an image scene and said display unit displays said plurality of first reference images for said each group.

Cookingham discloses wherein said registration unit registers a plurality of first reference images for each group corresponding to an image scene and said display unit displays said plurality of first reference images for said each group (see column 4 lines 26-29 and column 6 lines 24-42).

Usami, Inoue, & Cookingham are combinable because they are from the same field of endeavor, processing and comparison of digital images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the registration of reference images into groups as described by Cookingham with the system of Usami and Inoue.

The suggestion/motivation for doing so would have been to provide enhanced comparison and increase the efficiency of selecting a reference image by grouping the images based on similar image characteristics.

Therefore, it would have been obvious to combine Cookingham with Usami and Inoue to obtain the invention as specified in claim 5.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Usami and Inoue as applied to claim 1 above, and further in view of U.S. Patent No. 5526285 to Campo et al.

Usami and Inoue do not disclose expressly a unit for designating specific regions in said second reference image and said finished- state-predicting image displayed on said display, wherein said display unit indicates by color or density a magnitude of at

least one of a color difference and a difference in an image structure index between said designated regions.

Campo discloses a unit for designating specific regions in said second reference image and said finished- state-predicting image displayed on said display, wherein said display unit indicates by color or density a magnitude of at least one of a color difference and a difference in an image structure index between said designated regions (see column 2 lines 11-13 and column 12 line 45-column 13 line 13).

Usami, Inoue, & Campo are combinable because they are from the same field of endeavor, image comparison.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the measurement of color difference between images as described by Campo with the system of Usami and Inoue.

The suggestion/motivation for doing so would have been to provide increased accuracy and enhanced image quality comparison means.

Therefore, it would have been obvious to combine Campo with Usami and Inoue to obtain the invention as specified in claim 11.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark R. Milia whose telephone number is (571) 272-7408. The examiner can normally be reached M-F 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached at (571) 272-7402. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark R. Milia
Examiner
Art Unit 2622

MRM


EDWARD COLES
SUPERVISING EXAMINER
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